- **Psychogenic causes:**

Generalized & or Situational:

e.g. psychotic diseases, bad husband and wife relationship, premature ejaculation performance anxiety, homosexuality & other paraphilias ,…etc.

- **Drugs :**
  - Major tranquillizers & most of sedatives and hypnotics,
  - Antihypertensive ß blockers e.g. propanolol,
  - Diuretics: thiazides,

Chronic diseases :

- Renal failure(due to hyperprolactinemia).
- Liver disease (↑ estrogen).
- Chronic heart disease.
- Hypertension (arteriosclerosis & astherosclerosis)

- ***Iatrogenic causes :***
  - Pelvic operations & fracture pelvis: (may affect penile nerves and / or blood supply).
  - Total prostatectomy :(nerve affection)
- ***Penile causes :***
  - Penile chorde, defective smooth muscles of the cavernous tissue, defective tunical coverings & Pyronie's disease.

2-SPECIFIC TESTS FOR ED .

- **ICI** (intracorporal injection of vasoactive drug)
- **REGISCAN :**
  to diferentiate between organic & psychogenic ED .
- **CAVOMATE :**
  to diagnose VENO-OCCLUSIVE ED.
- **DUPLEX :**
  to diagnose ARTERIOGENIC ED .

Sex Therapy

- It is a couple therapy in the form of Sex education.
- Encourage good relationship between them.
- To get rid off the fear of performance anexiety we advice by Sensate focus program .

Rigiscan

- To measure Nocturnal Penile Tumescence (NPT) & rigidity.
- Normally 3-6 events of erection occur during 8 hours sleep.
- **Absence** or decrease of these events indicates organic ED.
- If **normal** it indicates psychogenic ED.

Sensate Focus Program

- Instructs the partners to stimulate each other by massage and kissing to gain satisfaction and pleasure and inform each other about the most sensitive and exciting area without genital stimulation.
- Later on, genital stimulation is allowed without intromission. At the end of this program the husband retains his self-confidence

Treatment of E.D.

- Treatment of the cause if possible
- Sex therapy
- Medical treatment
- Erect Aid Vacuum
- Surgical treatment,

Implantation of penile Prosthesis

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Laboratory investigations:

1-Basic investigations

- Blood sugar.
- Serum prolactin.
- Serum testosterone.
- Serum lipids

2-SPECIFIC TESTS FOR ED

Local

1-ICI by self injection of papaverin or prostaglandin before intercourse

NB. If prolonged erection (> 4hours) the patient must contact his doctor to avoid complication

2-Topical application of prostaglandin jell before intercourse .

3- Transurethral Application

Medical Treatment

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NB. If prolonged erection (> 4hours) the patient must contact his doctor to avoid complication

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3- Transurethral Application

Surgical treatment of ED

- Penile prostheses implantation.
- Indications:

1-Severe organic causes

2-Sever psychogenic causes

3-when all treatment modalities failed

SYSTEMIC TREATMENT

- Phosphodiestrase type 5 Inhibitors

They are breakthrough treatment for ED

(success rate >70%)

-Sildinafil (Viagra)

-Tadalafil (Cialis)

-Vardenafil (Levitra)

Medical Treatment

LOCAL ttt.

1-ICI

2-Topical application

3- Transurethral Application

SYSTEMIC ttt.

1.Peripheral (PDE5 Inhibitors)

2.Central

3.Both central & peripheral

SYSTEMIC TREATMENT

1. Peripheral (PDE5 Inhibitors)
   - -Sildinafil (Viagra)
   - -Tadalafil (Cialis)
   - -Vardenafil (Levitra)
2. Central
   - -Dopamine agonist (Apomorphine)
3. Both central & peripheral
   - -Yohembin
   - -Melanotan II

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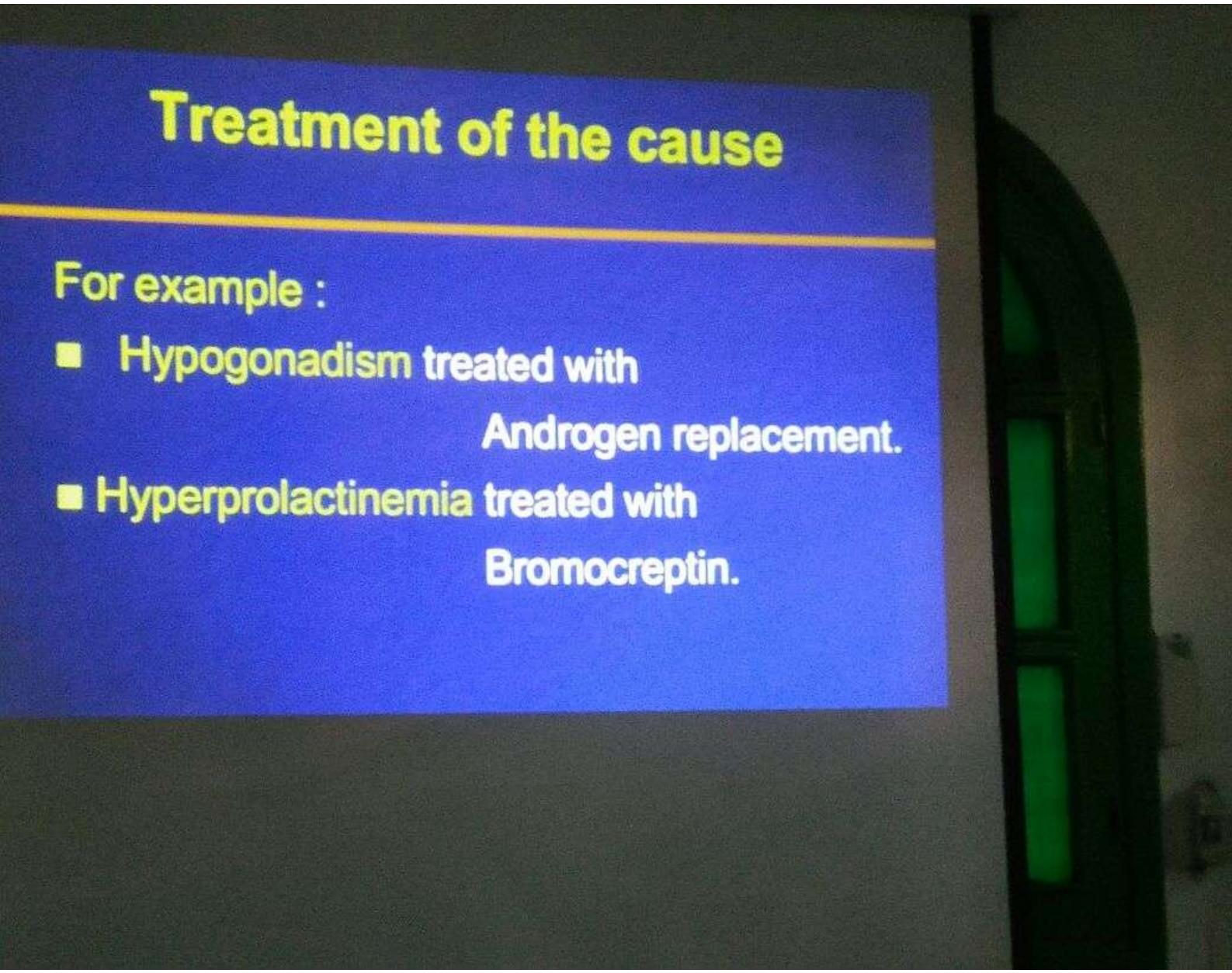
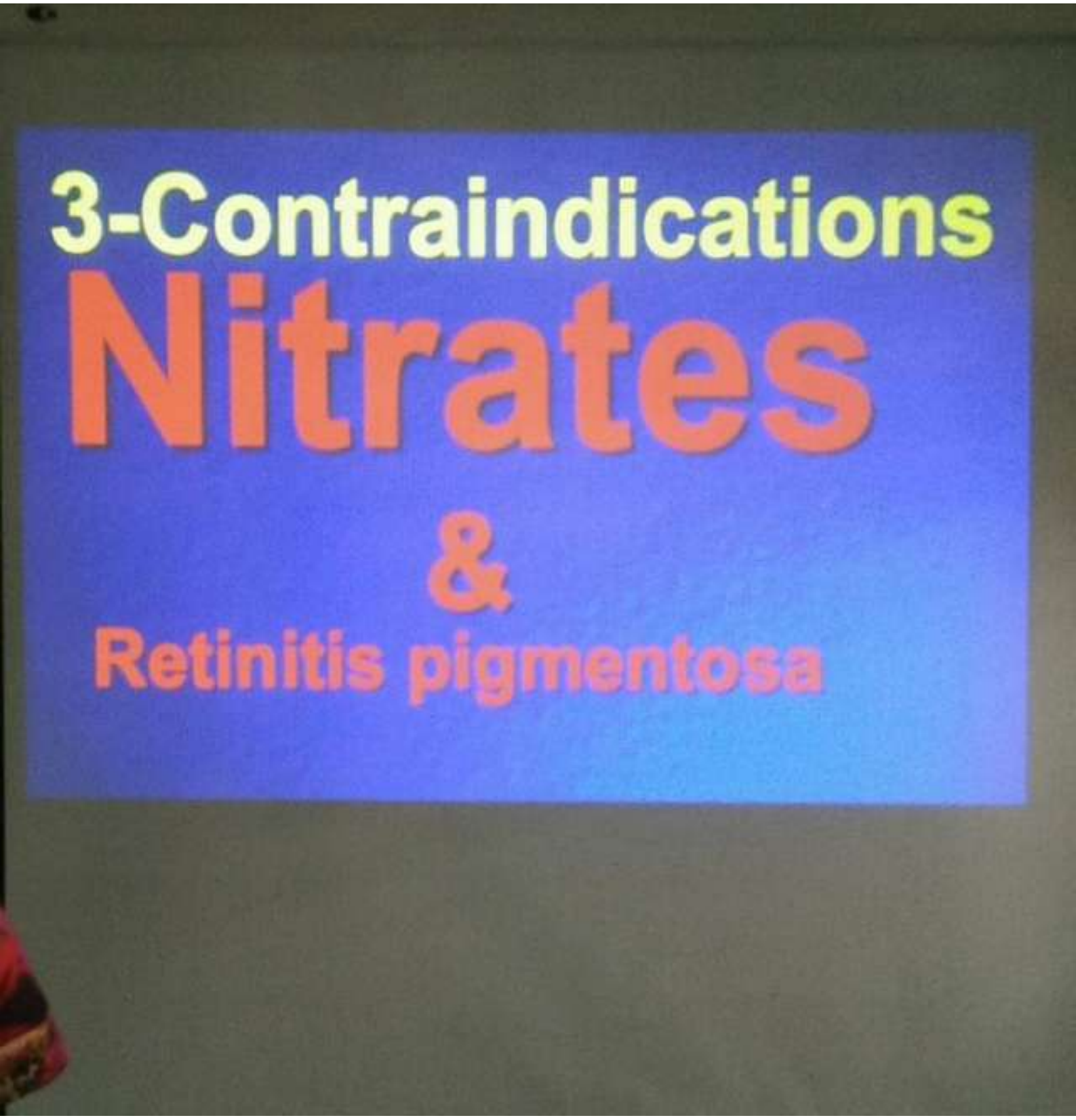




(cont.)

*If refilling or no response to aspiration alone we can aspirate from one corpora & irrigate saline containing V.C. drugs e.g. ephedrine or diluted adrenaline in the other corpora.

(please monitor bl. pressure & heart rate)

* If detumesence, tight compression & observation for 1 h.

* If no response shift to the surgical procedures.

Andrology unit

When can you judge on the semen parameters?

- One semen analysis is not enough
- 2 analysis in cases of oligozoospermia
- 3 analysis in cases of azoospermia
- At least 2 weeks between each one
- Recent analysis should be available

HOW TO DEAL WITH Low-flow PRIAPISM

* You must start ttt. as early as possible because tissue ischemia begins after 4-6 hs .
*Inject mild sedative & pain killer before you start ttt.
*Encourage ejaculation . If not:
*Ice packs compresses.
*Under complete aseptic condition ,Aspiration of blood from the corpora cavernosa by 19-gauge scalp needle 20ml by 20ml untile detumesence occurred or for 6 times .

Andrology unit

The color of seminal fluid

- A normal semen has a homogenous,
  (high protein content)
- Urine : In semen

  a faint yellow color, & detected by the uriniferous odor
- **Yellow color** in :Jaundice ,carotinemia ,drug
- **Blood in semen** : **hematospermia.**

Semen

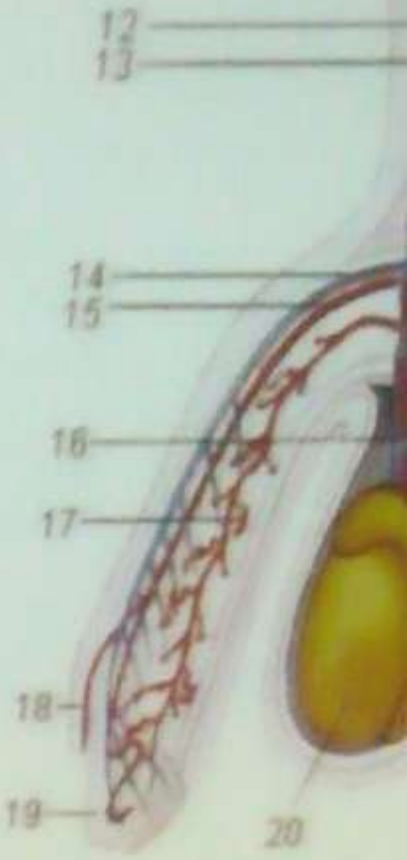
The Semen consists of two components:

1) Seminal plasma

-SV. (65%) -prostate (30%)

-the other accessory glands(5%)

2) Sperms in the seminiferous tubules



Transport of a semen sample to the laboratory:

@ < ½ an hours

@The sample should be protected from extremes of:

-temperature < 20^0C & > 40^0C

-direct sun rays

-vigorous movement

The viscosity of semen

- The consistency = viscosity & not **coagulation**
- **The viscosity measured after liquefaction**
- **High viscosity**

associated with:

- **SV hypofunction**
- decreased sperm motility
- infertility (sperm unable to exit from seminal plasma to enter the cervical mucous).

PROGNOSIS OF TTT

The incidence of impotence is directly related to the duration of priapism & the aggressiveness of ttt.

- The ED rate in literature reported to be 50% in low flow priapism ,
- Almost all patients will regain potency if the priapism is aborted within 12-24hs.

Andrology unit

Buried penis in an obese child

- Prepubertal obese Children with a micropenis is caused by the pressure of the prepubic fat on the penis

true penile structure can be revealed by pressing the surrounding fatty tissue inwards

- The incidence of micropenis in USA IS 15/100.000

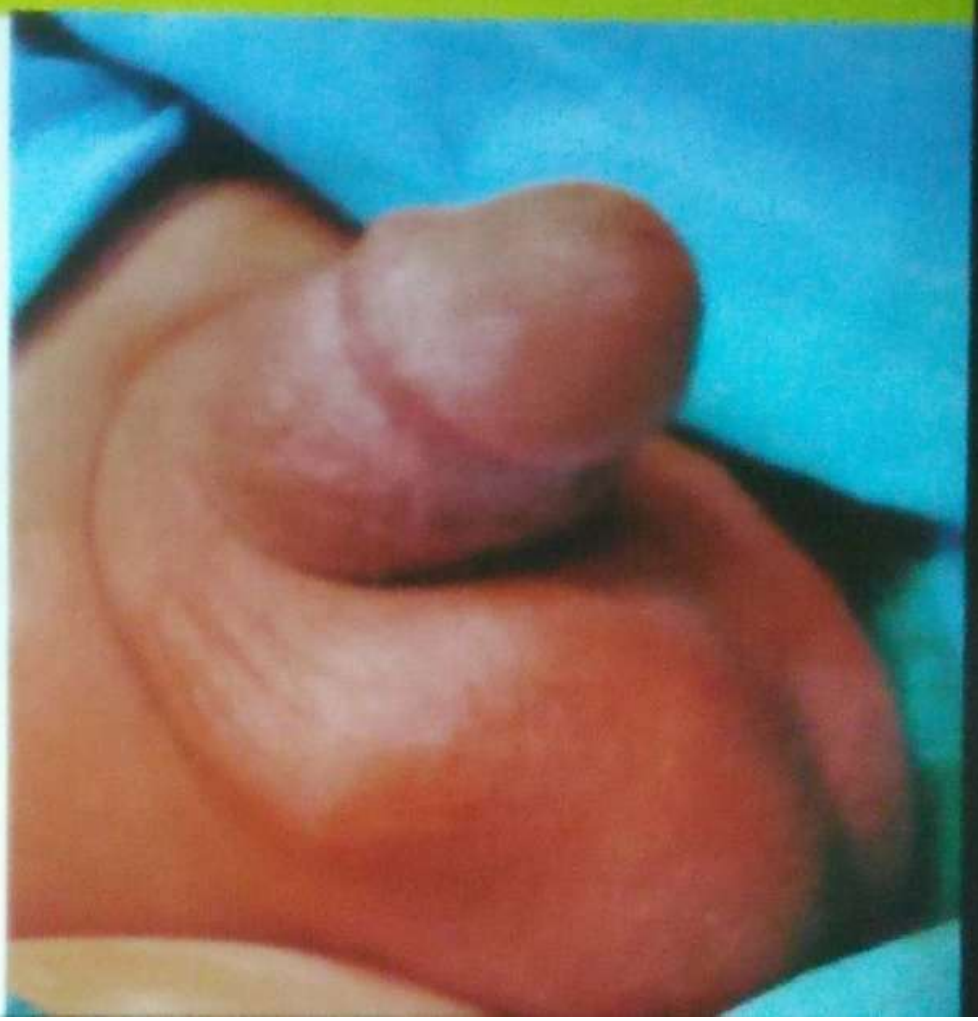
(J Urol 2005)

- Micropenis is condition affects 0.6% of men.

Kinesy Institute (2009)

"Trapped penis"

- Penis is trapped after radical circumcision in childhood



Adults Micropenis

- Erect penile length of at least 2.5standard deviations smaller than the mean penile length

OR

- smaller than about 7 cm (2 $^{3}/_{4}$ in) for an adult when compared to an average erection of 12.5 cm (5 in)
- NB.

in a patient with normal internal and external male nitalia.

- USA in the period of 3years (1997-2000)

The length of the erected penis

- <9cm is 5% of American males
- >20cm is 1% American males
- between 9-20cm is 94% of American males

(J Urol 2005)

Buried penis in obese

Inconspicuous Penis

- This term includes all short penile shaft (micropenis) secondary to abnormalities of the **investing structures** as in:

1-buried penis in obese

2-trapped penis.

2-webbed penis

(J Uorl 1986)

The mean of normal flaccid penis length

- **at birth** is between(2.75 – 4 cm) 4 cm (1.6 in)

  and the changes very little until puberty, when there is marked growth

  BJU International (2007)

- **In adults** is to be 8.9 cm (3.5 inches)

  The Journal of Urology (1996)

The Flaccid penis length is a poor predictor
rect length

How to measure penile length

(SPL) Stretched penile length

SPL is measured from the pubis to the tip of the stretched penis

A modified syringe to be used for measuring penile length

- the mean length is approximately 13.12 ± 1.66 cm (5.17 ± 0.65 in).

BJU International (2015)

- the average circumference 12.3 cm (4.8 inches) ,

its average width is 4 cm
nches)

t N J of Impot Res. (2008)

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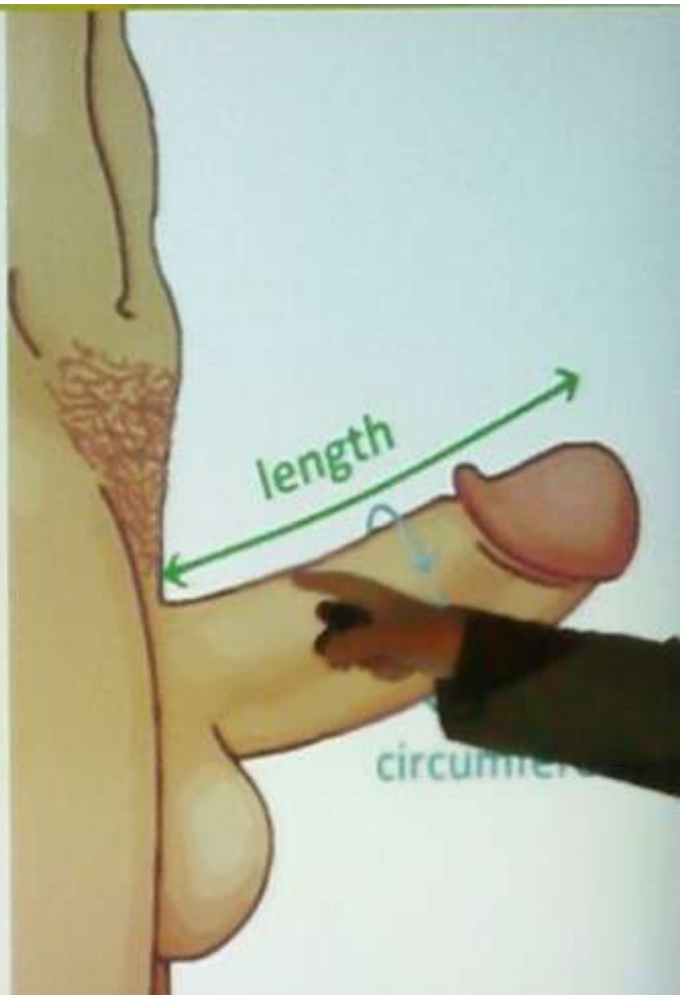

MICROPENIS

Infantile less than <2cm

Adult smaller than(<7cm).

How to measure penile length

(SPL) Stretched penile length

SPL is measured from the pubis to the tip of the stretched penis

A modified syringe to be used for measuring penile length

Normal penile measurements .

- It differs:

  -from country to country &

  -from race to race

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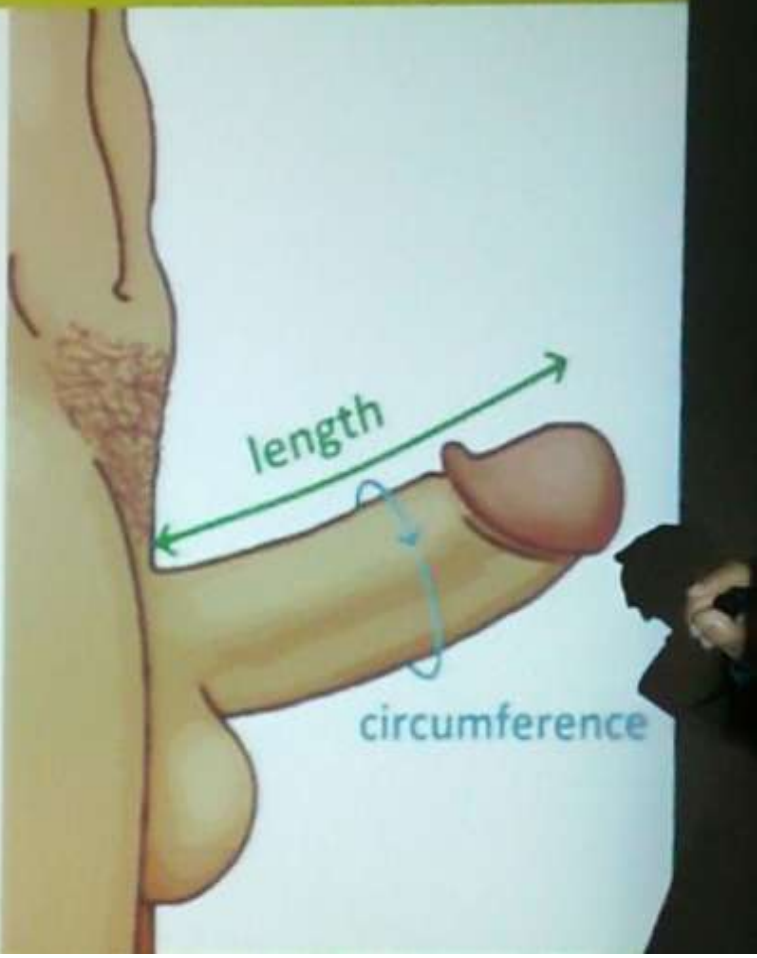


Penile development (organogenisis) (8^{th} -12^{th})

- .At the end of 8th week
  the bipotential gonadal → SRY → testis
- Under the effect of maternal
  CGH (placenta) on the testis
  its Leydig cells → testosteron
  its Sertoli cells → MDI

Testo. → Salfa reductas → DHT → PENILE differentiated

mpletely by 12weeks gestation

- Fetal androgen are high between(8-24 weeks)
- Its peak (14-16 weeks)
- Penile growth 20mm.from week 16-38
- True micropenis must result from hormonal abnormality that occurs after 12week of gestation

ALSO

- Several homeobox genes defects affect penis and digit size with no detectable hormone abnormalities.

- Intrauterine exposure to certain estrogen drugs like diethylstilbestrol (DES) lead to various genital abnormalities eg. micropenis .

- Exposure to uncontrolled domestic pesticide use increases the likelihood of newborns with a micropenis and/or other genital malformations

TYPES OF MICROPENIS

- **CONGENITAL**
- 1-Isolated micropenis (**true micropenis**)

  Occures after the 12th week

  due to: ↓gonadotropin → ↓testosteron
- 2- Micropenis accompanied by

  (hypospadias &or undescended testes)

  due to: testosterone defect

. **Inconspicuous Penis**

Penile growth
(2^{nd} -3^{rd} trimesters)

- Fetal androgen are high between(8-24 weeks)
- Its peak (14-16 weeks)
- Penile growth 20mm.from week 16-38
- True micropenis must result from hormonal abnormality that occurs after 12week of gestation

Definition

- The term micropenis includes a range of congenital & acquired conditions that result in an abnormally short penis &can be associated with both:
  - -functional (related to sex & voiding)
  - -psychological problems

Postnatal GROWTH

- Postnatal 1st 6months fetal pituitary&testes hormons increase → ↑test. Vol. & penile length
- The peak of testosteron 1st to 3rd months
- from(4-6months) decrease to prepubertal level (Leydig celles) not active
- So Penile growth during childhood is not androgen dependent

wever the penis **doubles in length &diameter**
ween ages of 6months & puberty

INTRAUTERINE DEVELOPMENT OF THE PENIS

- From 8^{th} to 12^{th} organogenesis (penil formation)
- During 2^{nd} &3^{rd} trimesters penile growth

Causes of micropenis

- **1-Insufficient testosterone secretion:**
  - Primary hypogonadism
    eg. Anorchia
    klinefelter syndrom
  - Secondary hypogonadism
    Hypogonadotrophic hypogonadism
    eg. Kallman syndrome

- **2-Testostern activation defect**
  - androgen receptors defects
    (incomplete form)
  - 5-alfa reductase deficiency
    (incomplete form)
- **3-Developmental abnormalities**
  eg. penis agenesis

4- idiopathic

Medical ttt.

- Testosterone is effective in treating micropenis due to testosterone deficiency.
- One or tow courses of 4 doses testosterone cypionate or enanthate injections

  (25 mg) / 3-week

  in infancy or childhood resulted in increase

  in penis sizes to reach the mean for age.
- Topical testosterone application is effective during infancy& childhood (5%cream for one month).

Trapped penis in adult

excessive surrounding

radical circumcision

Trapped penis in adult

excessive surrounding

radical circumcision

Trapped penis(adhesion of penile skin to the glans)

- Difficulty in :urinating and
  :sexual intercourse.
- Some have a low sperm count.
- Psychologically:
  -many have very low self-esteem
  -some even suffer from depression.

HOW TO DEAL WITH MICROPENIS?

- Medical ttt.
- Surgery for micropenis.
- Psychological support

Common clinical presentation

- **Most <u>8- 14 year-old boys</u>** referred for micropenis do not have the micropenis . Such conditions are usually explained by one of the following:

- a penis concealed in suprapubic fat (Buried & or trapped penis).

- a large body and frame for which a prepubertal penis simply appears too small.

- delayed puberty

Micropenis can cause anxiety

- **The parents**

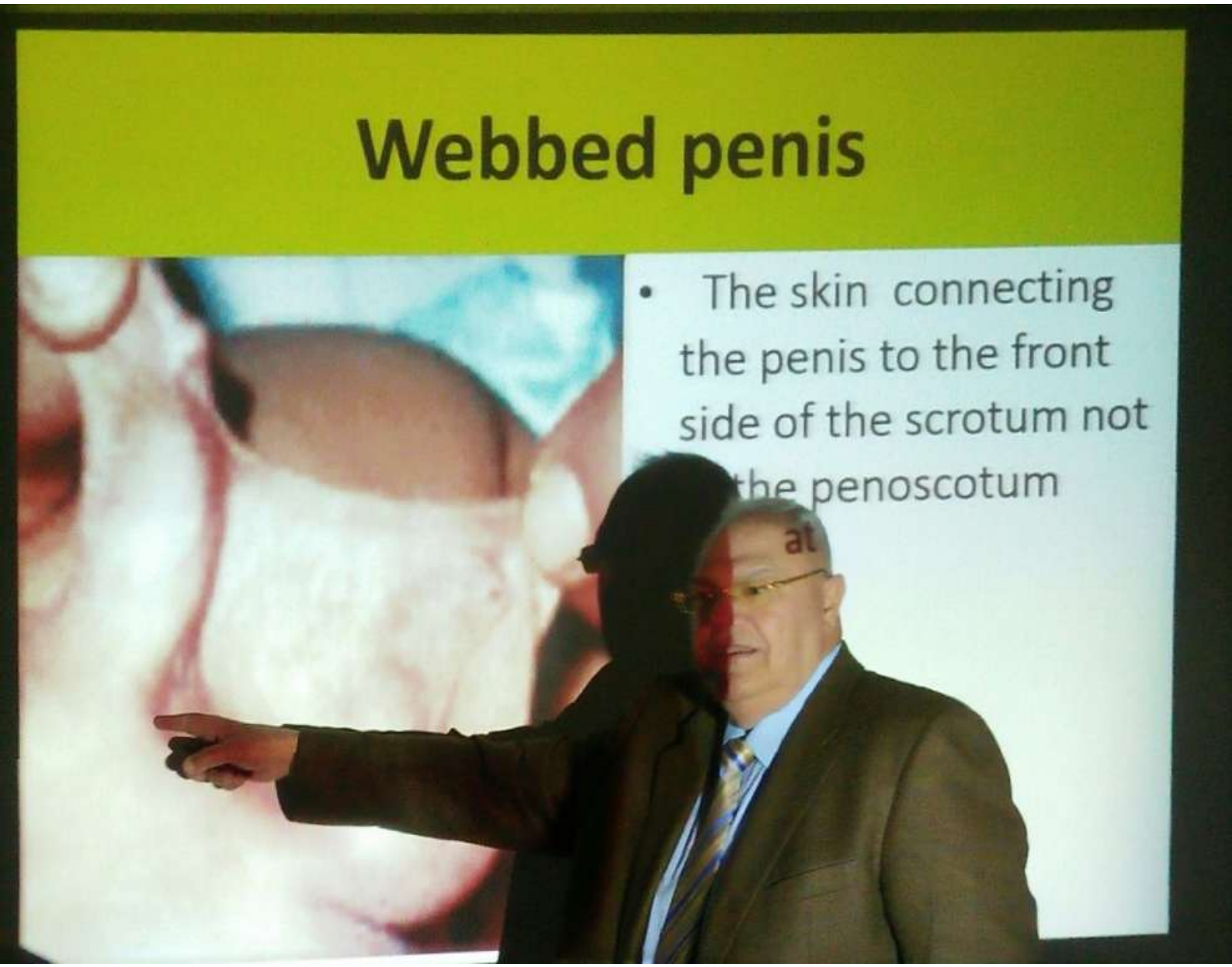
may worry about future sexual &reproductive functions of their children .

- **Young boys**

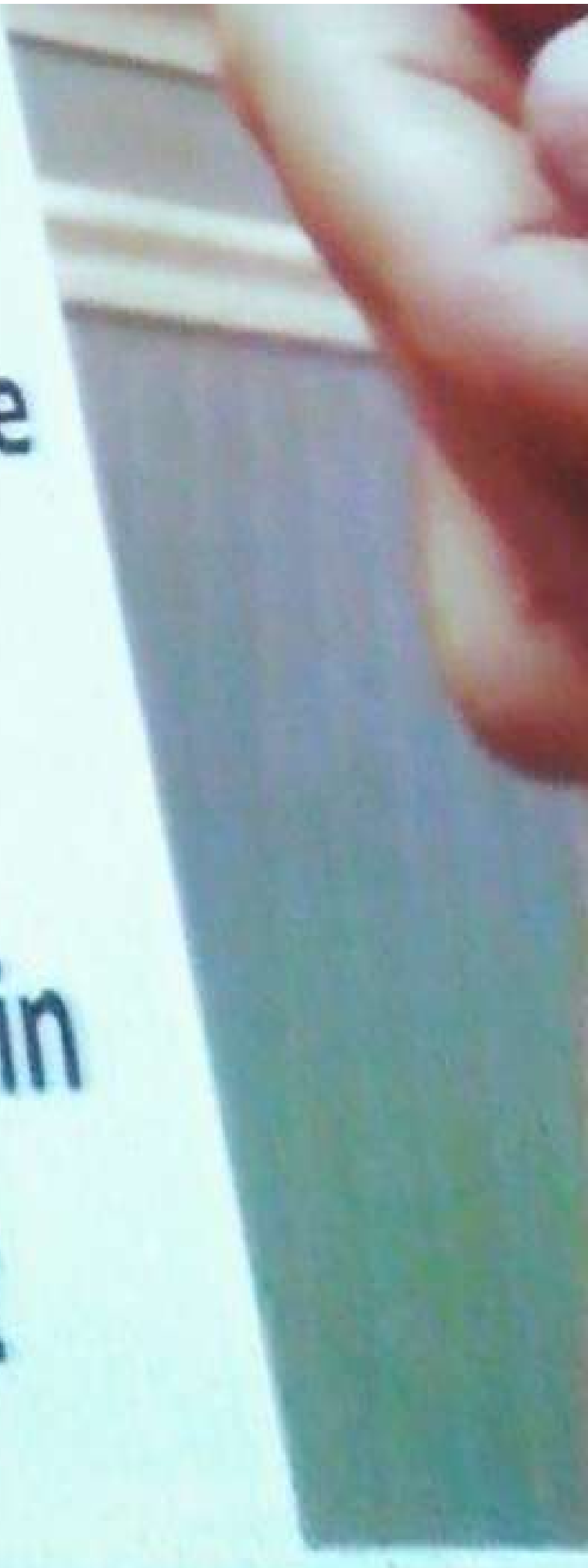
with micropenis might have the fear of discovery by their friends this lead to depression & anxiety

Webbed penis

- The skin connecting the penis to the front side of the scrotum not at the penoscotum



Suprapubic fat pads surrounding the penis in the absence of additional skin for the shaft



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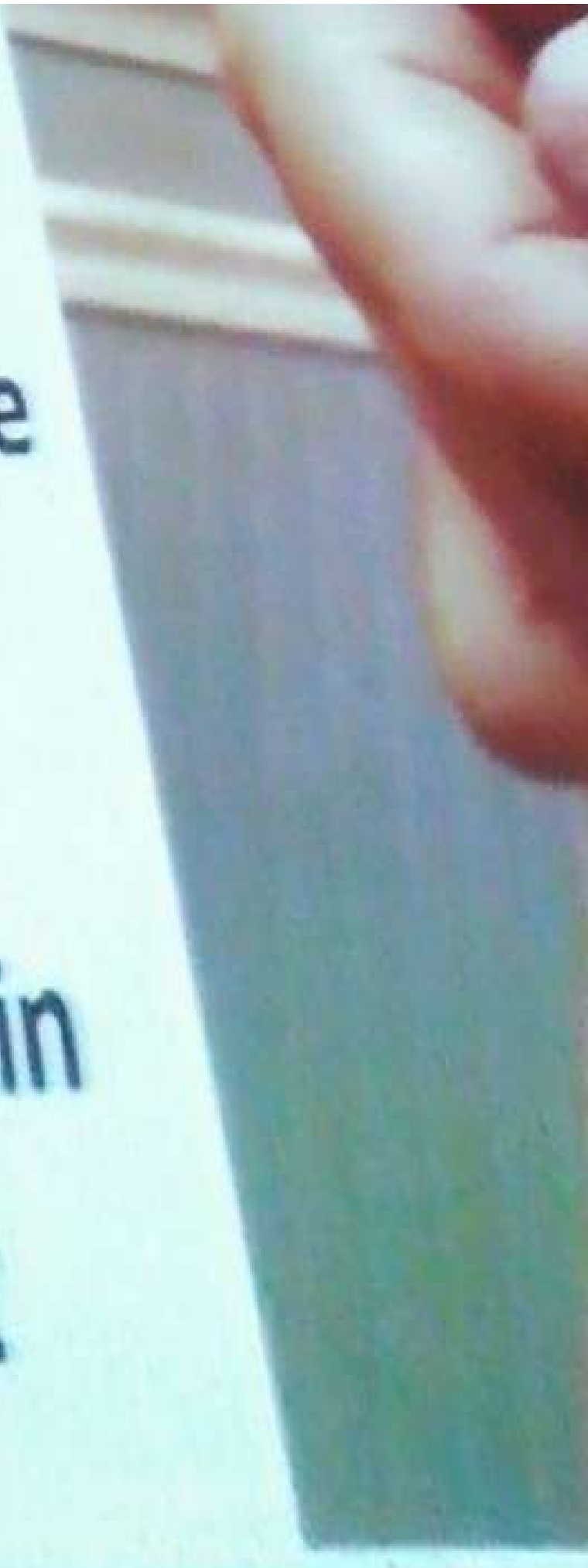


ED = FSAD

- **ED**

  Persistent inability to attain or maintain

  sufficient erection to perform s. intercourse

- **FSAD**

  Persistent inability to attain or maintain

  responses to sexual stimulation

Recreational & addictive drugs:

- *Alcohol:* (liver affection, neuropathy, higher center affection).
- *Tobacco&smoking:* (astherosclerosis, vasoconstriction & Decrease of nitric oxide synthetase enzyme.
- *Opiates& morphea:* (hyperprolactinemia & C.N.S. affection)
- *Cannabis:* (C.N.S depression & decrease of testosterone)

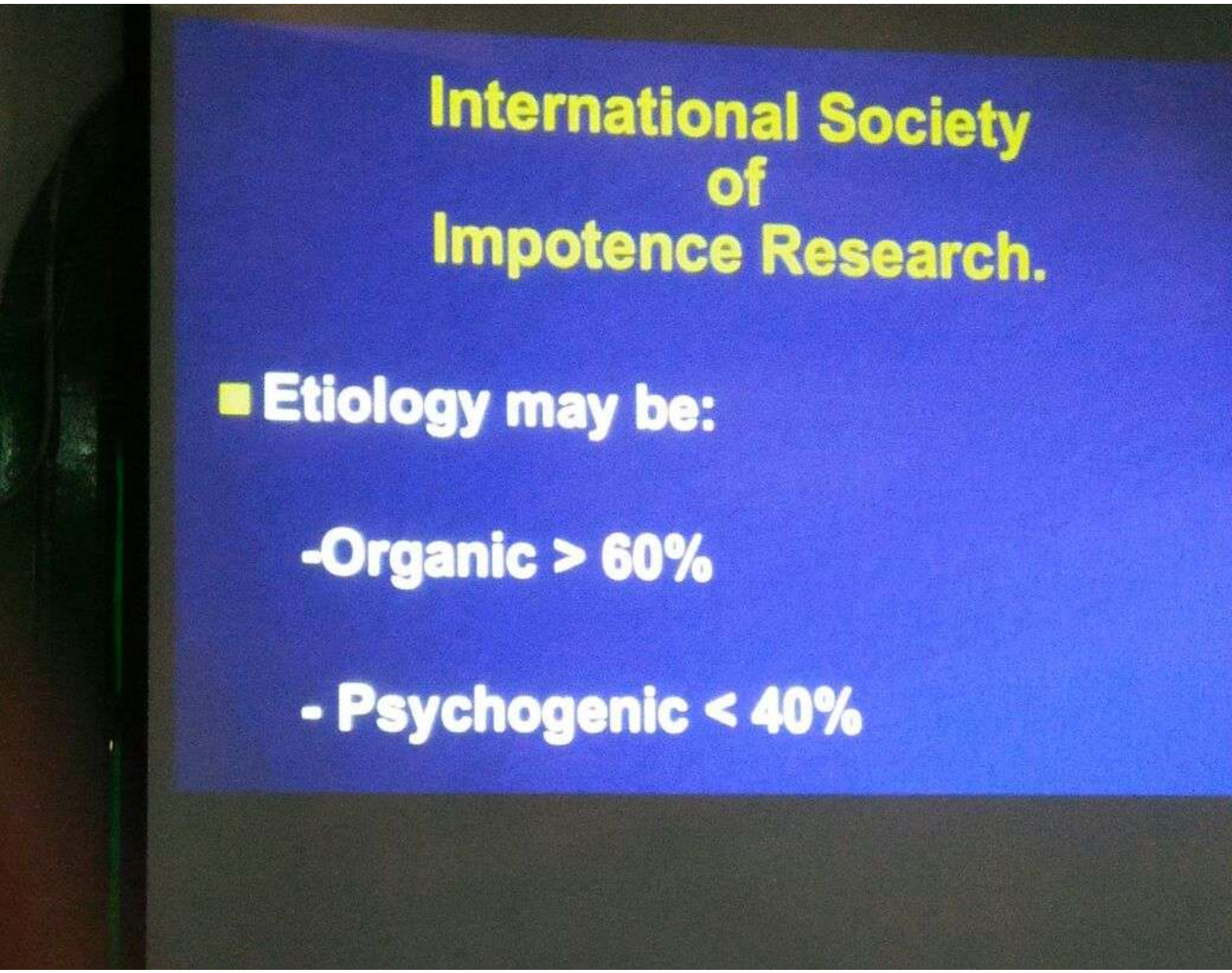
- *Endocrinal causes:*
  - Diabetes mellitus (p. neuritis,astherosclerosis)
  - Hypogonadism .
  - Hyperprolactinemia .
  - Hyper & hypothyroidism.

Organic causes (.60%):

- *Vascular causes e.g.:*
  - *Arteriogenic:* (arteriosclerosis, astheroscelerosis & stenosis..)
  - *Venous leakage ":*

    It may be congenital or acquired abnormalities of the venous drainage

- *Neurological causes e.g:*
  - Quadriplagia.
  - Disseminated sclerosis.
  - Temporal lobe epilepsy.
  - Spinal cord lesion e.g. Complete sacral injury (no erection,no ejaculation).



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e.g. psychotic diseases, bad husband and wife relationship, premature ejaculation performance anxiety, homosexuality & other paraphilias ,…etc.

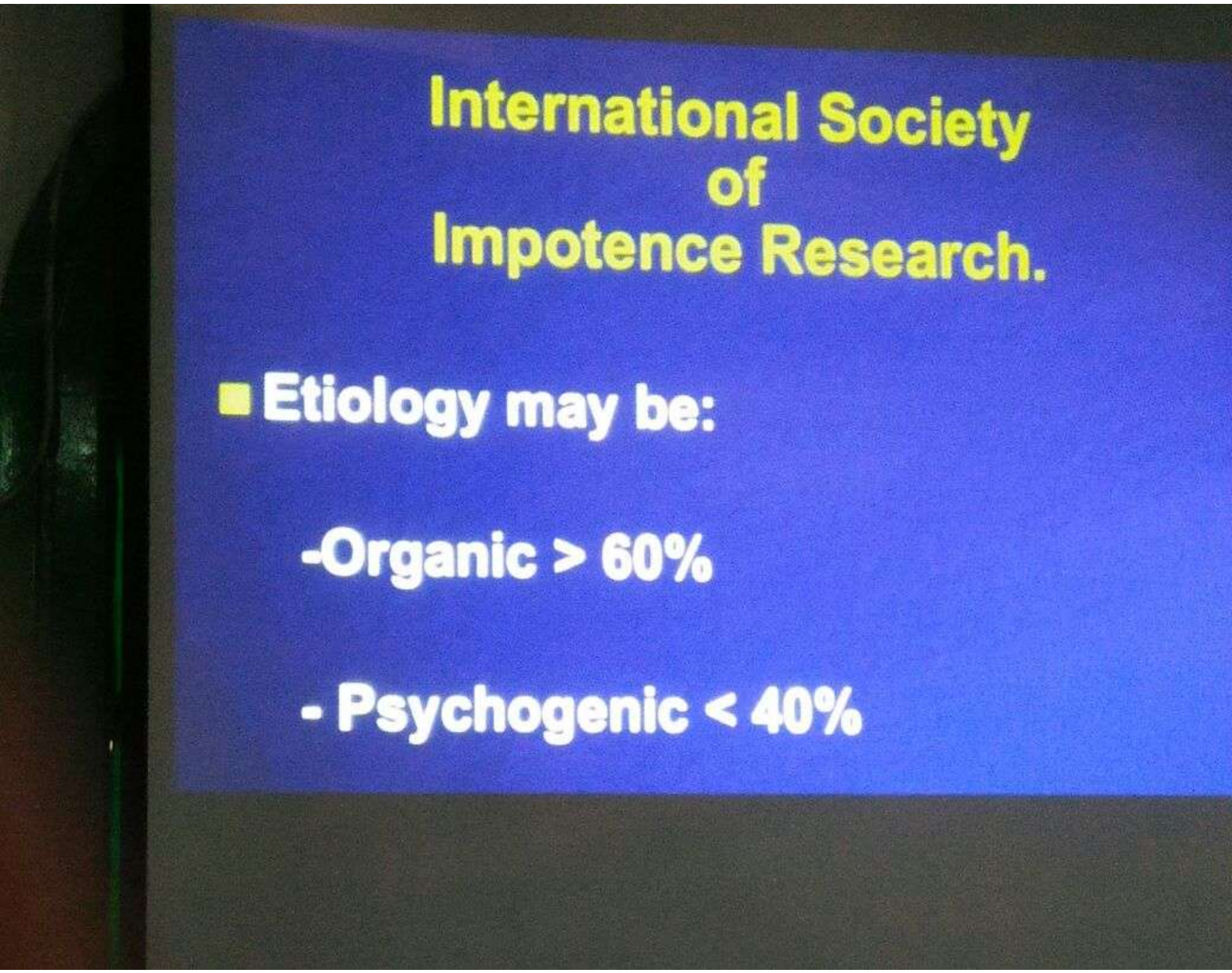
CENTRAL NEURAL CONTROL OF EJACULATION

- These central areas mediate the ejaculatory reflex via the interplay between:
- *Primarily:*

  Serotonergic neurons Vs Dopamenergic neurons .
  (DOPAMIN /SEROTONIN BALANCE THEORY)
  Waldinger(2002)

- *Secondary:*

  Cholinergic n.
  Adrenergic n.
  GABAergic n.



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Persistent inability to attain or maintain responses to sexual stimulation

Sexual Dysfunction (M&F)

- It is defined as :

impaired or inadequate ability of a man or a women to engage in or enjoy satisfactory sexual intercourse and orgasm

Female Sexual Dysfunctions (FSD)

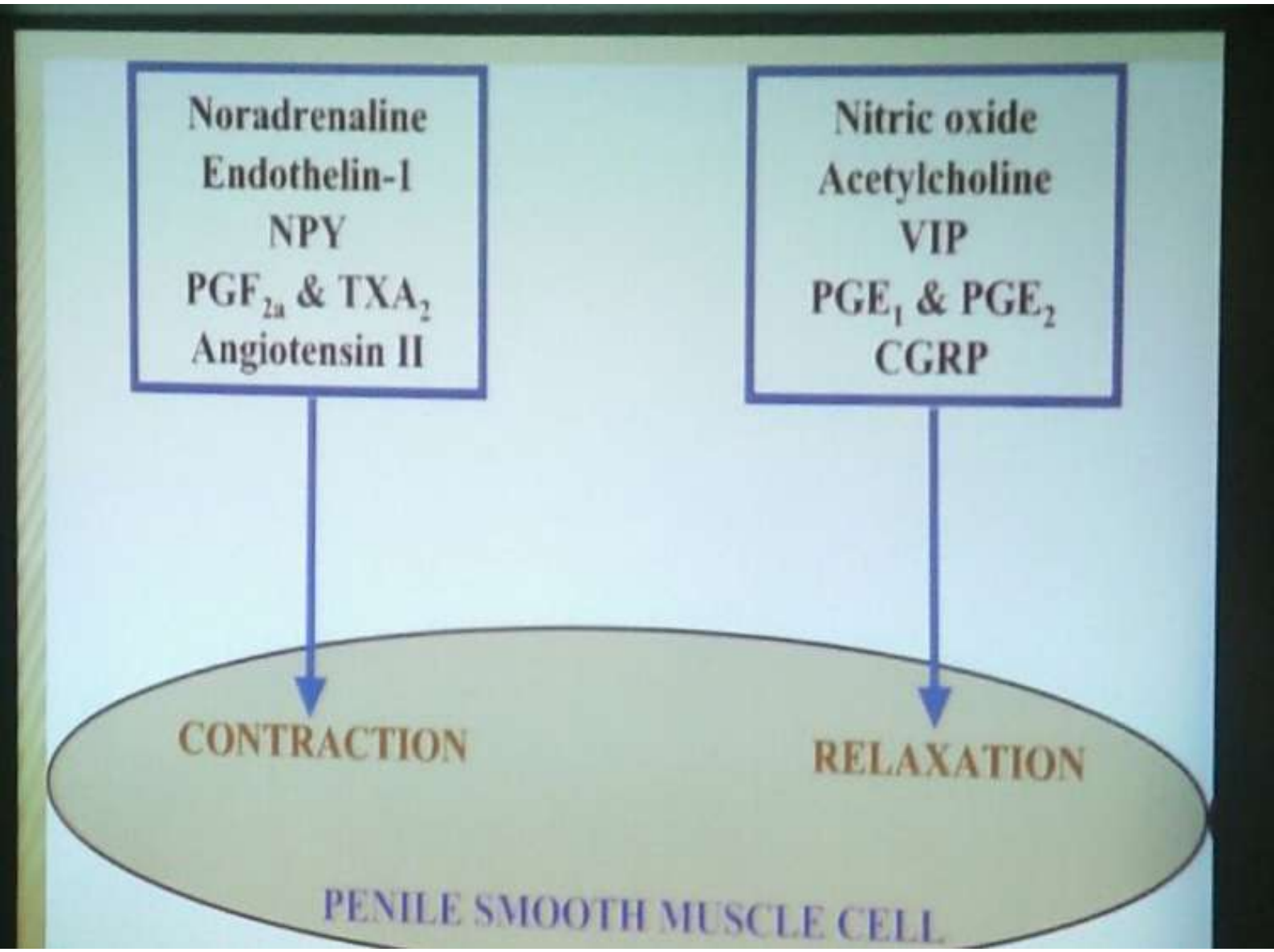
-- Hypoactive Sexual Desire Disorders

-hypoactive sexual desire
-sexual aversion

- Female arousal disorders
- Female orgasmic disorders
- Sexual Pain :

-DYSPAREUNEA
(treatable condition)

-VAGINISMUS



Sexual response cycle (M & F)

- The sexual response cycle (M&F) has the same items and the same definitions for each item:
- 1- Desire
- 2- Arousal
- 3-Orgasm
- 4- Resolution

(American Psychiatric Association ,2000)